

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 12810-00072-US	
		Application Number 10/531,225-Conf. #4572	Filed April 13, 2005
		First Named Inventor Helmut Winterling et al.	
		Art Unit 1711	Examiner G. Listvoyb
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p><input type="checkbox"/> applicant /inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>52,834</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____</p> </div> <div style="width: 35%; text-align: center;"> <p>_____ /Donald K. Drummond, Ph.D./ Signature</p> <p>_____ Donald K. Drummond, Ph.D. Typed or printed name</p> <p>_____ (202) 331-7111 Telephone number</p> <p>_____ December 26, 2007 Date</p> </div> </div> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>			
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Helmut Winterling et al.

Application No.: 10/531,225

Confirmation No.: 4572

Filed: April 13, 2005

Art Unit: 1711

For: POLYAMIDES

Examiner: G. Listvoyb

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

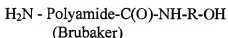
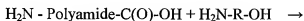
REMARKS

The Office rejected claims 1, 2, 5-11, 13, 14, 16 and 17 under 35 U.S.C. §103(a) over the combination of Brubaker (U.S. Patent No. 2,264,298) and Sato et al. (U.S. Patent No. 4,963,639). In addition, the Office has rejected claims 1-3, 5-7 and 9-18 under 35 U.S.C. §103(a) over the combination of Brubaker and Glazko et al. (Russian Journal of Applied Chemistry, Vol. 74, No. 9, 2001, pgs. 1513-1516).

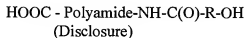
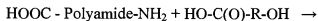
The disclosure relates to a polyamide containing compound which includes at least one hydroxyl group and has chemical bonding by way of an amide group to the end of the polymer chain. The compound which includes at least one hydroxyl group is a linear, unbranched alkanecarboxylic acid which includes at least one hydroxyl group. Applicants submit that the cited references fail to establish a prima facie case of obviousness because there is no suggestion or motivation to modify or combine the reference teachings as suggested by the office and

because there is not a reasonable expectation of success in combining or modifying the references as suggested by the Office.

Brubaker describes polyamides which are formed with a polyamide-forming composition in the presence of a hydroxyamine. In Brubaker, the amine moiety of the hydroxyl amine reacts with a carboxylate moiety in the polyamide formed. This reaction sequence is illustrated as follows:



In Brubaker, the chemical bonding to the polymer is by way of a carboxylate group. In contrast, the chemical bonding of the disclosure is by way of an amide to the end of the polymer chain. This reaction sequence is illustrated as follows:



The disclosure and Brubaker give completely different functionalized polyamide structures. The Office noted that the Applicants and Brubaker's polyamides "have very close structures" and the difference is "miniscule". Applicants submit that the Office is minimizing a fundamentally important aspect of polymer chemistry. Applicants note that functionalizing polymers with various substituents is the cornerstone of modern polymer technology. These substituents are varied to give the polymer desired properties such as strength, viscosity, melting point, solvent solubility and chemical reactivity. Here the Applicants modified the polyamide to give higher melt volume flow rate while maintaining the relative viscosity. In contrast, as noted below, Brubaker's goal was to improve (change) viscosity not maintain it.

The Office has also suggested that the claimed polyamide and the polyamide described in Brubaker have analogous structures and that structural analogs are *prima facie* obvious (MPEP 2144.09). Applicants disagree that the two structurally different polyamides are analogous structures. Both polyamides contain a functional amide group on the polyamide polymer chain. However, the claimed polyamide has at least one unreacted carboxylate group whereas the Brubaker polyamide has at least one unreacted amine group (see structures above). Accordingly, the two structures are not isomers or homologs. In addition, the compounds do not necessarily have similar properties as noted above. Therefore, the Office's conclusion that the polyamides are analogous structures is not supported by the facts.

Sato describes a radiation curable resin composition which consists of a urethane (meth)acrylate. The urethane (meth)acrylate is obtained by reaction of a hydroxy-containing compound composed in part of an amide hydroxyl compound with other components. The amide hydroxyl compounds may be polyamide polyols made from a polyamide and a hydroxyl-containing carboxylic acid. Sato was concerned with preparing a radiation curable resin not polyamides.

The Office suggests that it would have been obvious to replace the hydroxylamine in Brubaker with the hydroxy-containing carboxylic acid in Sato.

Brubaker selected chemical bonding to the polymer by way of the carboxylate group by reaction with the hydroxylamine to improve the viscosity and the affinity for dyes (page 1, second column, lines 4-12). The Office has provided no explanation as to why there is a reasonable expectation of success in modifying the chemical structure in Brubaker by reacting the polyamide with a carboxylate compound. What is the reasonable expectation of success in changing the fundamental structure required in Brubaker? Would modifying Brubaker give improved viscosity and dye affinity? As noted above, Applicants sought to maintain viscosity while giving higher melt volume.

Brubaker states that the object of the invention is accomplished by the hydroxylamine (page 1, column 2, lines 13-20). The hydroxylamine provides a critical structure which the Office has suggested modifying. Why is there an expectation that such a modification would be

successful in light of the criticality of the hydroxylamine as described by Brubaker? Applicants submit that there is no reasonable expectation that such a modification would be successful since Brubaker expressly teaches that the hydroxylamine is necessary for the invention to work and there is nothing to suggest that any other alternative exists. Applicants also note that the claimed functionalized polyamide generally maintains viscosity.

The Office has also suggested there is motivation to modify Brubaker because hydroxycarboxylic acid is more environmentally friendly compared to hydroxylamine. Applicants respectfully disagree with the Office's conclusion regarding the environmental unfriendliness of ethanolamine (used by Brubaker). Applicants note that monoethanolamine (MEA) is used in hundreds of household products including detergents and shampoos. If MEA is as environmentally unfriendly as the Office asserts, why is this product used in such products which find their way into wastewater?

Applicants further note that the hydroxycarboxylic acid counterpart to MEA (hydroxyethanoic acid) is a highly acidic skin and inhalation hazard. This is counter to the Office's conclusions. In addition, the Office's concern about the environmental unfriendliness of amines is irrelevant. The amines are reacted with the polymer and are thus bound to the polyamide, and, therefore, do not pose the environmental hazard to wastewater that the Office has concluded.

Because there is not a reasonable expectation of success in modifying Brubaker and because there is no teaching or suggestion to modify or combine Brubaker, the disclosure would not have been obvious over the combination of Brubaker and Sato. Accordingly, Applicants respectfully request that the Office withdraw the rejections of claims 1, 2, 5-11, 13, 14, 16 and 17 under 35 U.S.C. §103(a) over Brubaker and Sato.

The rejection of claims 1-3, 5-7 and 9-18 over the combination of Brubaker and Glazko is respectfully traversed.

The disclosures above with regard Brubaker are applicable here. Applicants note that Brubaker does not teach or suggest the use of a hydroxycarboxylic acid. The Office has cited Glazko which describes the conversion of caprolactam to hydroxycaproic acid. Applicants fail to understand why Glazko is relevant. Like Brubaker, Glazko does not teach or suggest the use of hydroxycaproic acid in polyamide formulations it only describes how one can make hydroxycaproic acid. Applicants note that it is improper to use Applicants own disclosure to supply the missing teaching or suggestion step (i.e. use of hydroxycaproic acid). In addition, Applicants submit that the conclusion that one is motivated to add a synthesis step by converting caprolactam to hydroxycaproic acid is not justified by the facts of record. Therefore, the combination of Brubaker and Glazko does not teach or suggest the claimed composition.

Accordingly, the claimed composition would not have been obvious over the combination of these references. As such, Applicants respectfully request that the Office withdraw the rejection of claims 1-3, 5-7 and 9-18 under 35 U.S.C. §103(a) over Brubaker and Glazko.

In view of the above remarks, applicant believes the pending application is in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00072-US from which the undersigned is authorized to draw.

Dated: December 26, 2007

Respectfully submitted,
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